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ABSTRACT

A study was conducted to review and synthesize the research literature dealing with attitudes toward handicapped persons in educational settings. The aim was to identify the conditions existing in vocational education which lessen receptivity on the part of teachers, counselors, and local administrators toward handicapped students entering programs. It was found that negative attitudes contain cognitive and affective dimensions which may be manifested differently. It was also found that the most effective intervention strategies which may be aimed at those attitude dimensions are information approaches and social contact approaches, respectively. Further, it is probably the affective dimensions of negative attitudes toward the handicapped that are most fundamental, and the design of social contact interventions appears to have much potential for attitudinal change. (Author/JH)

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Informational Analysis Paper No. 161

ATTITUDINAL BARRIERS TO RESPONSIVE VOCATIONAL EDUCATION FOR HANDICAPPED STUDENTS

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FOREWORD

This study was designed to review and synthesize the research literature dealing with attitudes toward handicapped persons in educational settings. Negative attitudes are frequently a significant barrier to the provision of quality vocational education to handicapped students.

This study, Attitudinal Barriers to Responsive Vocational Education for Handicapped Students, was sponsored by the Bureau of Occupational and Adult Education under the terms of the U.S. Office of Education contract with the National Center for Research in Vocational Education. This information will provide a knowledge base and general practitioner strategies for removing attitudinal barriers to handicapped students in vocational education.

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ABSTRACT

Efforts to promote the occupational development of handicapped persons are usually hindered by a number of barriers and constraints. Barriers resulting from negative attitudes toward handicapped individuals on the part of educators, employers, peers, and the handicapped themselves are among the most pervasive and the most difficult to remove. There is a need for synthesis of the relevant literature to help enhance the responsiveness of vocational education to handicapped individuals. Thorough review and synthesis of the literature and research concerning the nature of the attitudinal barriers; the variables determining the attitudes of teachers, counselors, administrators, employers, and peers; and strategies for attitude change seem lacking in the area of vocational education as in other areas of education.

This literature review examines the handicapped themselves, and the notion of mainstreaming as attitudinal foci. The aim has been to identify the conditions existing in vocational education which lessen receptivity on the part of teachers, counselors, and local administrators toward handicapped students entering programs.

It is found that negative attitudes contain cognitive and affective dimensions which may be manifested differently. It is also found that the most effective intervention strategies which may be aimed at those attitude dimensions are information approaches and social contact approaches, respectively. It is probably the affective dimensions of negative attitudes toward the handicapped that are most fundamental, and the design of social contact interventions appears to have much potential for attitude change and is a fertile area for further research.

HISTORICAL OVERVIEW - TRENDS TOWARD MAINSTREAMING

Policies and Legislation

The history of governmental involvement in and concern with the education of handicapped persons is a progression from neglect, through gradual legislative commitment, to the status quo (Gearheart 1974). Prior to 1900, special educational provisions for handicapped persons were very rare and private in nature. A decline in the tendency to keep handicapped individuals socially isolated combined with the growth in the philosophy of "education for all," led to social and political pressure to end the exclusion of the handicapped from the nation's educational resources.

In the 19th century, there was some recognition of federal responsibility for handicapped individuals. In 1864, federal legislation led to the establishment of Gallaudet College for the Deaf. In 1879, Congress allocated the annual sum of $10,000 (nationwide) for books and educational materials for the blind. These programs were expanded somewhat over the years but constituted the sole federal involvement in education of the handicapped until well into the twentieth century.

In 1931, the Section on Exceptional Children and Youth was established in the U.S. Office of Education. In many ways, this was the forerunner of the Division of Handicapped Children and Youth, and the Bureau of Education for the Handicapped. Advances were being made in the education of handicapped children, but seemingly, only in basic general education. Congressional concern for vocational education of handicapped persons was not yet a reality.

The Cooperative Research Act (P.L. 83-531) was passed in 1954. The law provided research grants to institutions of higher learning and to the states. Of the $1 million appropriated, $675,000 was earmarked for research related to the education of mentally retarded students. This move established the principle of support for specific handicapping conditions.

In 1958, the Captioned Films for the Deaf Act authorized HEW to provide films which would enhance cultural and recreational opportunities for the deaf. The act was evidence of continued concern in congress for handicapped individuals and also furthered the tendency toward categorical aid. Later in the same year congress passed an act awarding grants to train professionals who would in turn train teachers of mentally retarded students.

The Act to Train Teachers of the Deaf was passed in 1961, and was aimed more at the classroom teacher than the teacher trainer. There were significant ideological disputes among educators of the deaf, and the fact that they were able to cooperate in advocating the passage of this act impressed federal legislators and added great momentum to the cause.

A major breakthrough came in 1963, when President Kennedy (a personal supporter of education for handicapped individuals) signed the Mental Retardation Facilities and Community Mental Health Centers Construction Act. The act had several important provisions: (1) it established the Division of Handicapped Children and Youth which administered all existing programs for handicapped persons within the Office of Education; (2) it amended prior legislation to train professional personnel in all recognized categories of handicaps rather than in just deafness and mental retardation; (3) it provided funding for research and demonstration projects in the education of children with all categories of handicaps.

The Elementary and Secondary Education Act (ESEA) of 1965 provided funding for educationally disadvantaged children and youth, including those who were educationally disadvantaged because of a handicap. ESEA was not written specifically to benefit handicapped students; but the inclusion of funding for students among the educationally disadvantaged with handicaps was more evidence of the continued commitment of congress.

During the two years that followed there were numerous pieces of legislation impacting in various ways on the education of handicapped persons. Provisions were made for research, personnel development, and materials. Although it had been the intent of congress that school districts use a signigicant share of their ESEA funding for handicapped students, some used too little or none. In 1966, Title VI was added to the original ESEA making it explicit that states (rather than local districts) take responsibility for initiation, expansion, and improvement of programs for handicapped children. This Act also established both the National Advisory Committee on Handicapped Children, and the Bureau of Education for the Handicapped. The Bureau replaced the earlier Division of Handicapped Children and Youth in administering all related programs.

Additional amendments to the Elementary and Secondary Education Act in 1967 were highly responsive to the expressed concern of Special Educators over the inadequacy of ESEA and its earlier amendments. Additional benefits were provided including Regional Resource Centers to carry on research and development activities to improve the education of handicapped persons. The amendments also continued the trend of providing support for

specific handicapping conditions by establishing Regional Deaf/ Blind Centers.

In 1968, there were three acts passed by Congress having impact on the education of handicapped individuals. P. L. 90-480 was designed to eliminate architectural barriers to physically handicapped persons. Buildings constructed all or partly with federal funds were subject to a mandate for provision of entrance and mobility from floor to floor with minimum inconvenience to physically handicapped citizens.

The Handicapped Children's Early Education Assistance Act was primarily for the preschool handicapped child. This act was significant because it was the first time congress had passed legislation that was exclusively for all categories of handicap rather than for one or two specified conditions, without the provisions being attached to other legislation.

Also in 1968, amendments to the Vocational Education Act provided that 10 percent of allotments to the states must be used for vocational education of handicapped persons. This marked the first specific mention of the handicapped in vocational education legislation.

In 1969, legislation established the National Center on Educational Media and Materials for the Handicapped for production, dissemination, and storage of instructional materials and media for the deaf, blind, and other handicapping conditions. Also that year there were additional ESEA amendments which consolidated all legislation pertaining to the education of handicapped individuals into the Education of the Handicapped Act. The 1969 ESEA amendments also provided for special programs for children with specific learning disabilities, a legislative "first" in that area.

The Rehabilitation Act of 1973 (Public Law 93-111) specified that public schools and postsecondary vocational education programs must provide appropriate educational services regardless of the nature or severity of handicap (Section 504). Section 503 of the act required employers with federal contracts to institute affirmative action procedures by recruiting, training, hiring, and promoting qualified handicapped individuals.

The Education of the Handicapped Amendments of 1974 (Public Law 93-380) was the next significant legislation. P.L. 93-380 has come to be regarded as a bill of rights for the handicapped (Bonham 1975). The philosophy of mainstreaming was first introduced in federal legislation when the 1974 amendments made clear a child's right to a free public education between ages three and twenty-one (including vocational education) regardless of the

severity of handicap. P.L. 93-380 significantly increased federal funding for education of the handicapped and based allocation to the states on proportions of handicapped children in the population.

The 1974 amendments also set forth a goal for states to provide full educational opportunities to all handicapped children and set a detailed timetable for accomplishing the goal. The law provided that priority in utilization of funds be given to handicapped children and youth who were not receiving an education. Regarding mainstreaming, P.L. 93-380 introduced the concept of "least restrictive alternative." The states were mandated to insure that handicapped children were educated in the least restrictive environment meaning that handicapped students not be removed from the regular education environment unless the nature or severity of the handicap was such that education in regular classes, even with the use of supplementary aids and services could not be achieved satisfactorily.

Procedural safeguards, a child identification system, and confidentiality provisions were other major facets of the 1974 amendments. Procedures were included to insure that handicapped children and their parents receive prior notice regarding proposed changes in the educational program, and that they have access to relevant records and a due process hearing. The states were also given the responsibility of identifying, locating, and evaluating all handicapped children residing in the state regardless of severity of handicap. Data and information acquired by the states were to be protected by specified confidentiality policies and procedures.

The Education for All Handicapped Children Act of 1975 (P.L. 94-142), represents the culmination of the trends toward increased federal involvement in the education of the handicapped (Abeson and Zettel 1977). A significant bulk of the requirements of P.L. 94-142 had already been set forth in P.L. 93-380, but the new law mandated stricter compliance and also introduced some new provisions.

Prior to P.L. 94-142, states failing to provide the mandated educational opportunities to handicapped children jeopardized their eligibility for federal funding. However, as of September 1, 1978, P.L. 94-142 made it a violation of federal law for any public education agency to deny a free and appropriate (general or vocational) program to any handicapped child in need of special education. In the interim period, between P.L. 93-380 and P.L. 94-142, some school districts had been excluding handicapped students through incorrect classification and placement as well as through failure to provide appropriate programs. P.L. 94-142 came as a partial response by congress to such practices.

Challenges to the legality of denying a free public education for all handicapped individuals began in the early 1970's with court cases in Pennsylvania and the District of Columbia and finally received full congressional support with the passage of P.L. 94-142. Other than strengthening and clarifying the provisions of P.L. 93-380, the most significant component of P.L. 94-142 is the requirement that each child be provided with a written Individualized Education Program (IEP). The IEP explicates the needs of each child and the services to be provided. It is developed by a team consisting of the local education agency representative, the regular teacher, special education teacher, counselor, parents, student, and others as appropriate. Under P.L. 93-380, due process could be invoked for purposes of identification, evaluation, and placement. The 1975 Act extends the due process opportunity to "complaints with respect to any matter relating to the identification, evaluation, or educational placement of the child" (Sec. 615, b,1,E). The IEP is partly intended to provide a mechanism for review and rectification of any inappropriate practices. The Vocational Education Amendments of 1976 continued the 10 percent funding set aside to the states for the handicapped and specifically affirmed that the principles of P.L. 94-142 were to be equally adhered to in vocational education settings.

Implications for Vocational Education

The Vocational Education Amendments of 1968 marked the beginning of efforts to provide handicapped persons access to vocational education programs. Means of providing vocational education services to the handicapped since then have ranged from special segregated classes and shops to mainstreaming into regular classes with necessary support services (McKinney 1976).

Now that legislation mandates education for the handicapped in the least restrictive environment, much attention is being given to the implications for vocational education (Wallace 1971; Buontempo 1974; Bond and Weisgerber 1977; and Hughes 1978). Nationwide, large numbers of handicapped persons are still unserved by vocational education programs and a significant portion of those being served are in special segregated programs and have not been mainstreamed into regular classes (General Accounting Office 1976).

Clearly, there is a pressing need for continuation of investigations which have already begun to identify barriers to the responsiveness of vocational education to the needs of handicapped individuals. Barriers of particular concern are lack of funding for special equipment and materials, lack of support personnel, lack of resources in smaller school systems, inadequate

teacher preparation in the general and vocational education of the handicapped, lack of service coordination, and architectural barriers. However, in many ways, developing attitudinal receptivity within the vocational education mainstream toward the handicapped students who are and will be entering it is a prerequisite problem.

History of Attitudes Toward the Handicapped

Historians and anthropologists have long been aware that some primitive cultures, and even some relatively modern societies such as the ancient Spartans, often cast out or otherwise disposed of those with physical deformities. Body image seems to be of great social value in all cultures today as well (Goffman 1963). In our society, the visible handicapped are not so literally cast out but our preferences for body images are still made quite clear. The ideal of "body young/body beautiful" pervades fashion and advertising and plays a role in nearly all personal interaction. Jordan (1970) suggested that negative attitudes toward those with handicaps not readily visible might have more recent origins, perhaps in the industrial revolution. In the preindustrial age, a strong, healthy, and normal body had a high social value presumably because of the ability of that person to perform the physical labor which was required in everyday life. An increased emphasis on the social valuation of intellectual abilities probably came out with industrialization when machines began to do the heavier work and society began to demand more workers with planning and decision-making abilities.

Within the past few decades in this country, the agricultural sector of the economy has displaced many manual workers as the industry became increasingly mechanized. Those with some degree of physical or intellectural impairment have suffered signigicant employment difficulties in the wake of such labor market shifts, and now have a acute need for specialized vocational education.

When it is recognized that individual attitudes toward handicapped persons are, in part, the product of the prevalent social norms, the complexity of the underlying structure of such attitudes can be appreciated. The fact that handicapped individuals have been perhaps less represented in vocational education than in more general education programs is not necessarily the result of vocational educators haveing more negative attitudes toward the handicapped than general educators, but is perhaps a reflection of the general public opinion that handicapped students are not appropriate candidates for occupational preparation other than those special programs which train for a limited and stereotyped range of jobs.

In reviewing and considering the nature of the attitudinal barriers to the handicapped in vocational education, it is important to remember that they have deep historical and socio-

cultural roots. However, interventions to remove or reduce such barriers are possible. Such intervention strategies must be based upon an understanding of the variables and determinants of negative attitudes toward the handicapped.

REVIEW OF THE LITERATURE

Attitudes Toward the Handicapped - Knowledge Base Limitations

Of the literature that is available concerning attitudes toward the handicapped, a majority addresses attitudes toward one specific disability group. Only a small portion of the literature deals with the handicapped in general (Saunders 1969).

Most of the literature concerning attitudes toward the handicapped includes some evaluation and comments on the state of the art in attitude research. The field is beset with theoretical and methodological problems. Because the nature and structure of attitudes as psychological phenomena are still largely unknown, it is hazardous to infer too much from any single study. Attitudes are often so complex that all of the determing variables cannot be accurately identified. An attempted synthesis across many studies can draw only limited conclusions. Synthesis is further limited by differences in methodology employed and also by the fact the unkown variables may be operating within the social contexts of the various experiments. The fact that one hypothesized determinant of attitudes appeared to be significant in several studies does not necessarily mean that factor will similarly determine attitudes in other situations.

In all the literature concerning attitudes toward handicapped persons, only a few studies deal with attitudinal barriers in school settings. And, of those, only a very few deal specifically with vocational education. The lack of research into attitudinal barriers to handicapped students in vocational education is a significant finding in itself. It is reasonable to assume that most of the findings derived from general education settings apply equally to vocational education. However, there may be attitude determinants that are specific to vocational education. Also, in many instances vocational education takes place in different types of social environments than does general education. Negative attitudes toward those who are handicapped may become manifest differently in a workshop or simulated work setting than in a more traditional classroom environment, and may, therefore, require different intervention strategies. Continued research efforts are needed which will further identify and clarify such special concerns in vocational education regarding attitudes toward handicapped individuals.

The following literature review examines each study individually with respect to its findings and their significance. In concluding sections, these findings are synthesized where warranted by the evidence into possible intervention strategies. The major questions and problems raised by the literature are outlines in the form of suggested directions for further research.

Attitudes of Educators

The literature on attitudes toward handicapped persons does not lend itself to categorization according to type or even severity of handicap. Except for mental retardation studies, most of the literature addresses itself to broad categories such as "physically handicapped." Jones (1974) addressed the question of whether or not it would be meaningful or valuable to attempt further delineation. He concluded that there are common sets of attitudes toward handicapped individuals which cut across disability categories. In other works, for the purpose of attitude research it is meaningful to speak of handicapped persons as a group. The nature of exceptionalities is a variable in attitude formation, but the exceptionalities do not appear to be perceived by most persons as discretely as the many categories would indicate. Jones advocates a non-categorical psychology of the disabled where the presence of a handicap is assumed to be more significant as an identifier than the specific nature of the handicap. However, it is important to note that this conceptualization of the handicapped as a homogeneous group is appropriate only to the psychology of disability and does not imply that educational practices need not be changed to meet the special needs created by each individual's handicapping condition.

Jordan and Proctor (1969) conducted a study of the factors determining teacher attitudes toward the integration of exceptional children into regular classroom. Factors were classified into four groups: (1) demographic factors such as age, sex, and income; (2) social-psychological factors, or basic value orientation; (3) contact factors including the amount, nature, perceived voluntariness of, and enjoyment of contacts with the handicapped; and (4) knowledge factors, i.e., the amount of factual information held about the attitude object. Five hypotheses were formulated and tested.

1. Teachers with full-time experience in teaching exceptional children would show more positive attitudes than teachers with part-time or no experience in the area. The hypothesis was partially confirmed, attitudes were more positive among those special educators who also had background in physical therapy, occupational therapy, and speech therapy. However, the variable of having had full-time experience with the handicapped was not significant among special educators as a group. This suggests that the experience in one of the therapies was a more significant attitude determinant than intensity of experience in teaching the handicapped.

2. The total amount of experience would result in an increase in positive attitudes. This hypothesis was not confirmed. Those with many years of teaching experience in special education did not have attitudes differing widely from those newer to the field. This variable may have overlapped somewhat with amount of graduate education as a variable since newer teachers in special education are more likely to have had graduate training in the field.

3. The amount of academic credit concerning exceptional children will head to an increase in positive attitudes. This hypothesis was only partially confirmed. Those with marginal amounts did not score higher than those with no experience.

4. Those with experience either giving or receiving consultation services regarding the handicapped would score higher. The hypothesis was partially confirmed in that those with experience giving consultation services did score higher, but those with experience receiving it did not.

5. Regular classroom teachers in schools having special education programs would have more positive attitudes because of their increased contact with the handicapped. This was not confirmed and suggests that regular teachers have very little or no contact with special classes in their own schools, possible because those classes have been segregated in a remote part of the building.

The variables investigated in this study may have more significance for vocational eductors than for special educators such as those studied. Exposure, coursework, etc., might have more effect on the attitudes of persons trained to teach the nonhandicapped than on the attitudes of those who presumably already have some interest in the handicapped.

Crandel (1969) discussed the three components of attitudes, particularly in relation to handicapped persons. Cognitive components are basically informational or intellectural in character. Affective components are related to feelings or emotions, and behavioral components are the specific action tendencies normally associated with a particular concept. Crandell called attention to the fact that many species destroy their deformed young as did the ancient Spartans. The concern is that although modern societies may suppress this, the underlying affect reflex may

still be present. If so, the affective component is perhaps the most important consideration in any attitude change strategy.

Conine (1969), in a study of 1,000 teachers, found that teacher attitudes toward handicapped students appear to be similar to the attitudes of the general public. If negative attitudes of teachers are a reflection of the general public's attitudes then gradual changes in the public attitudes will be reflected in the attitudes of future generations of teachers. However, the more immediate implication is that present teacher attitudes must be changed since they greatly influence the value orientations of future generations. Conine also found that teacher attitudes were not significantly influenced by their race, age, religion, education, experience, choice of specialization area, or contact and relationship with a disabled person. The study did find that females are slightly less rejecting of the disabled than males but no cause-effect relationship was concluded.

Schmidt and Nelson (1969) found that attitudes of teachers of the educable mentally retarded (EMR) individuals affect what goals are set for these students. The hypothesis was that teachers stressed different goals for the EMR students than for the normal students. The findings supported the contention that EMR teachers give more attention to teaching social skills than academic subject matter. If this reflects an unrealistic attitude toward the capability of EMR students, it may indicate that special classes are understimulating EMR students in the area of academic performance.

Jordan (1970) studied attitudes toward mentally retarded persons in the United States and Israel among teachers of mentally retarded students, regular teachers, parents of mentally retarded children, and employers/managers. An attempt was made to identify variables predictive of attitudes in both the cognitive and affective domains. It was found that among the four groups, attitudes tended to be more positive among the teachers of mentally retarded students, followed by the parents of mentally retarded children, the regular teachers, and the employer/managers, respectively. Hypothesized variables thought to affect attitudes were efficacy, or perceived control over one's environment, knowledge of handicapping conditions, contact with handicapped persons, sex, and age. The efficacy index correlated highly with positive attitudes suggesting that those who work best with mentally retarded individuals are those who are secure and have a sense of control over their environment. This type of individual probably perceives those who are mentally retarded as having the potential for independent living and self-care. Knowledge of handicapping conditions was found to be only partially predictive of positive attitudes. Those with high knowledge possessed positive attitudes in the cognitive domain, i.e., realistic attitudes

toward the ability and potential of mentally retarded persons. However, knowledge was not predictive of positive attitudes in the affective, emotional response domain. Contact with mentally retarded persons followed a pattern opposite that of knowledge as a variable. Amount of contact did not affect attitudes in the cognitive domain, but was predictive of a more positive affective response. Also, contact which was perceived as enjoyable was a particularly strong predictor. Age as a variable correlated differently depending on the group. Among teachers of mentally retarded students, there was no relationship between age and positive attitudes. Curiously, among regular teachers there was a negative relationship. This finding may be partly due to the fact that only recently have teacher education programs for regular teachers included some coverage of exceptionality. Among employers and managers, age was positively related to favorable attitudes. Findings for the sex variable showed that men were slightly more positive in their attitudes than were women which contradicts the findings of most of the other literature.

A study of the effects of the contact variable among teachers of the blind was done by Kuhn in 1971. The finding was that increased exposure to blind children does not tend to increase favorable attitudes on the part of the teacher. However, the exposure variable studied was contact via a resource room for blind children. No attention was given to the qualitative aspects of the contact suggesting that modifications in the nature of the contact may have led to improved attitudes. The study by Jordan (1970) and others also indicated that exposure in certain contexts is the key variable rather than contact alone.

In an early study of the attitudes of vocational educators, Wallace (1971), found that groups of vocational teachers responded differently regarding mainstreaming. Differences were found between: (1) teachers in small schools vs. those in large schools; (2) those in schools with special education programs vs. those in schools without; (3) experience of teachers vs. newer teachers; (4) teachers of boys vs. teachers of girls; and (5) those who said they would work unhesitatingly with the handicapped vs. those with one or more reservations. All teachers held the attitude that educable mentally retarded persons could become self-supporting, but most expressed the opinion that they would not. It seems that this group of vocational educators felt that EMR students could learn the vocational skills necessary for self-sufficiency, but at the same time they expected that most of them either would not be given employment opportunities, or would lapse into being supported by family or by the state.

Teachers from schools with special education programs had more optimism about the potential of educable mentally retarded

students, possibly because of the increased contact. Teachers of girls reported having lower hopes for their students becoming self-supporting. This may have been partly because many of the girls had marriage as a goal rather than entrance into the labor force, and may also be indicative of some sex stereotyping.

In this study, relatively newer teachers were generally less positive than the experienced teachers about the chances of self-sufficiency of the EMR students. A concern was that such a pattern of attitudes among new teachers could have an effect on the capability or commitment of regular vocational programs to assimilate educable mentally retarded students. Regarding the contacts that teachers had with EMR students, those teachers from schools with special education programs reported have more positive feelings about their contacts with educable mentally retarded students than did teachers in segregated buildings.

There was no significant difference in reaction to the contact variable between teachers of boys and teachers of girls. Teachers with more experience had more positive feelings about their contacts. When questioned about integrating the special needs students into regular vocational classes, most of the teachers favored some integration but did not want to eliminate special classes. A vocal minority felt that all of the EMR students could hold their own in regular classes and that they were being "babied" too much by the special classes. This study seems to support the applicability of Jordan's (1970) findings to vocational education.

Eiseman (1972) conducted a study in an attempt to link negative attitudes toward handicapped persons with the authoritarian personality. A significant finding was that subjects who were taught about the authoritarian personality before being administered an attitude scale showed more positive attitudes toward handicapped persons. The author suggested that prejudice might be reduced by supplying information about the authoritarian personality.

In 1972, Good and Brophy studied the linkage between teacher attitudes toward various students and the behavioral expression of those attitudes. Although not specifically directed toward handicapped individuals, the study did yield some relevant findings. Female low achievers appeared mostly as objects of concern. Teachers initiated additional contact with them and they were given fewer restrictions. However, male low achievers were viewed by teachers as making overwhelming demands. They were not allowed to approach the teacher freely (as the girls were) and most teacher behavior directed at them attempted to control their behavior. The significance of this study is in its demonstration that teacher attitudes affect the quality and quantity of contacts

with students. Since many teachers appear to have strong attitudes toward handicapped students, their subtle classroom behaviors toward those students may be problematic unless increased awareness and self-monitoring are fostered.

Shotel, Iano, and McGettigan (1971) undertook a study to determine how a program for integrating handicapped children into regular classes with supportive resource room services would affect the attitudes of regular class teachers toward the handicapped. Findings were that the presence of supportive services helped make teacher attitudes more favorable to the idea of integration. Teachers without the resource room became less optimistic about their competency for teaching handicapped students. Other methods of improving teacher confidence would presumably enhance their receptivity to mainstreaming as well. Presumably, such supportive services would also improve the attitudes of vocational educators toward handicapped students.

Teacher attitudes and expectations are frequently influenced by the labels attached to students. Salvia, Clark, and Ysseldyke (1973) attempted to determine to what extent teacher attitudes toward handicapped students are a product of labels. The findings, although inconclusive, indicated that when a child is labeled as mentally retarded, the teacher may form attitudes toward that child which are consistent with previously held attitudes toward the mentally retarded. In the experiment, the same child provoked different attitude responses when labeled differently. These findings were based on short-term teacher-student exposure and may vary when the teacher has the improperly labeled child in class for a longer period of time. Still, the implication is clear that improper labeling, and perhaps any labeling, can have a detrimental effect on teacher attitudes.

Harth (1973) studied the attitudes of various population groups toward mentally retarded persons. Findings generally supported the conclusions of earlier literature. Teachers in training reported that their first preference was to teach the gifted and their last preference was to teach severely mentally retarded students. Attitudes toward mentally retarded students were more favorable among teachers in training in special education than among those in training in general education. Among all teachers, the mentally retarded students from families with higher socio-economic levels were more highly regarded than mentally retarded children from disadvantaged families.

It was also found that special educators place more emphasis on personal and social adjustment than do regular teachers. This supports the conclusions of Schmidt and Nelson (1969). For students diagnosed as having similar abilities, those placed in special classes were lower in academic achievement than those

placed in regular classes. Teacher expectancies are a factor in achievement, and it appears that special education teachers may be underestimating abilities of their students.

A study of the attitudes of student teachers at Oklahoma State University was conducted by Maynard in 1974. There were four groups of student teachers, those in agriculture education, home economics education, special education, and general education. They consistently expressed attitudes in two areas that were considered to indicate rejection of handicapped students: they felt that there should be special schools for disabled persons (84.7 percent) and that it was more difficult to get along with disabled persons (54.7 percent). Overall, student teachers in agriculture education were most rejecting, and those in special education least rejecting. Sex of the student teachers was a variable (women more accepting), but there was no relationship found between attitudes and rural or urban background of the student teacher as was hypothesized.

Gullotta (1974) conducted a study of teacher attitudes toward moderately disturbed children by having teachers choose from an array of proposed solutions to a hypothetical behavior problem. The solutions covered a continuum from "residential care" to "doing nothing about the perceived problem." Five solutions called for handling the problem within the school system while the other five handled the problem outside the school. It was found that all selected solutions required some services outside the existing school structure. No teachers selected solutions requiring only those services available within the school. Also, teachers indicated that they would prefer to keep the child in their classes if they had the support services they felt were needed. Of particular interest was the fact that teachers rejected the guidance program in their schools as unable to provide any assistance. This rejection raises questions about teacher attitudes toward guidance counselors as support personnel.

Martin (1974) documented the lack of accurate knowledge of epilepsy among counselors and teachers in a city high school. Earlier studies showed that attitudes toward handicapped persons were related to the amount of knowledge held about the attitude object. Only eight out of forty counselors reported always giving special attention to the social adjustment of epileptic students. Ten ignored the fact that the student had epilepsy, and the remainder reported that they would counsel an epileptic student if and when it seem indicated. Nine counselors had never discussed vocational limitations with epileptic students, and 70 percent had never made a referral to the local epilepsy association. Among teachers forty out of 500 reported not knowing what epilepsy was. Twenty-four percent thought epilepsy was inherited, and 50 percent thought it was contagious. Sixty-nine

percent thought an object should be placed between a person's teeth during a seizure. It was additionally found that there was some discrimination against epileptics in granting admission to vocational high schools.

Misconceptions such as these about handicaps frequently translate themselves into fear and rejection. Studies identifying common misconceptions lay the groundwork for information dissemination as an attitude change strategy.

Wechsler, Auarex, and McFadden (1975) conducted a general study of teacher attitudes toward the integration of handicapped children into the regular classroom. It was found that most teachers have positive attitudes toward education of handicapped students, particularly those teachers with experience working with handicapped persons. Those with experience also viewed integration as having a greater possibility of success. Students with handicaps such as asthma, cardiac conditions, and mild to moderate orthopedic impairments were seen as more easily integrated. The severely handicapped were perceived as a greater problem mainly by teachers with little or no experience with handicapped students.

Further study into the effects of labeling on attitudes toward mentally retarded persons was done by Gottleib (1975). Earlier findings that labels can be important contributions to negative attitudes were supported in part. It was found that the detrimental effects of labels usually occur when the labels are in combination with certain kinds of behavior on the part of the labeled child. A film of a child displaying inappropriate behavior was shown to two groups. For one group the child was labeled EMR, and for the other, normal. Attitudes toward the child were less favorable among the group for whom the child was labeled EMR. A film of the same child behaving appropriately also elicited less favorable attitudes when the EMR label coincided with the disruptive behavior.

Aloia (1975) studied the effects of labels and physical deformities on the expectancies of teachers in training toward the children in question. Based on photographs of children with physical appearances ranging from normal to badly deformed, the pre-service teachers made judgments of the children's intellectual normality or subnormality. There was a significant positive relationship between the degree of physical deformity of the child and the tendency for that child to be judged subnormal. When the photographs were labeled "normal child" or "mentally retarded child," the relationship was still observed. This suggests that when physical stigmata conflict with a label, the former takes precedence in attitude formation. A teacher confronted with a physically deformed child of normal intellectual level may subjectively react to that child as intellectually subnormal. If

such reactions then lead to lowered expectation, academic understimilation is likely to occur.

Parish, Eads, Reece, and Vicitello (1977) further assessed the attitudes of teachers in training in both special education and regular education toward physically handicapped, mentally retarded, and learning disabled students. The physically handicapped students were most favorably regarded by both groups. The special education group evaluated all disability groups more favorably than did the general education group. After the general education group took an introductory course in special education there was no change in their attitude patterns. The attempt to change the attitudes of the general education group at the cognitive dimension via the course was not successful, possible because the attitude measurement was largely affective based and did not reflect attitude changes along the cognitive, objective knowledge dimensions.

Another of the few studies which deal with the basis for negative attitudes toward mainstreaming of handicapped students in vocational education was conducted by Bond in 1977. He found widespread belief among vocational educators that they are not able to teach handicapped students, and that most of the handicapped students would not benefit from vocational instruction. Vocational educators also reported a strong concern that handicapped persons would create a safety problem in many vocational areas. Such concern led to particularly low receptivity towards mainstreaming among the vocational educators in this study. The results suggest that misconceptions regarding handicapped persons are widespread in vocational education and that information about the handicapped should be a primary strategy for attitude change.

A major study into attitudinal barriers toward handicapped persons in schools was done by Cohen (1977). She asserts that there is a scarcity of literature regarding attitudes toward handicapped students among school personnel because, until mainstreaming was mandated, few appreciated the value of such a knowledge base. Some have advocated delaying mainstreaming until greater receptivity toward handicapped students can be fostered in the mainstream. However, the Leadership Training Institute in Special Education argues that the evidence obtained did not support the idea that change in practice should wait until possible to promote attitudes fully receptive to the changes. Cohen also affirmed the need of those concerned with developing more receptivity in the mainstream for a more adequate knowledge base from which to develop attitude change strategies.

A recent study was conducted by Flynn, Gacka, and Sundean (1978) into the reasons why regular classroom teachers felt unprepared to teach mainstreamed handicapped children. Seventy-five percent of the teachers and administrators included in the

study agreed that mainstreaming is a desirable educational and social reform, but only special education teachers felt adequately prepared. Eighty to ninety percent favored inservice training or graduate courses to enhance competence, but only 50-60 percent indicated that they would be willing to enroll for such training. A large proportion (40 percent) of regular classroom teachers expressed doubts that their school districts would provide the special materials needed for teaching mainstreamed students. An implication of this study is that school districts need to motivate regular classroom teachers to avail themselves of additional training, and to assure them that their particular needs will be met.

Mandell and Strain (1978) identified a number of variables which correlated with positive attitudes toward mainstreaming on the part of regular classroom teachers. The predictive variables were: presence of team teaching, years of teaching experience, a course in diagnosing behavior problems, availability of a resource teacher, previous special education teaching experience, number of courses taken in special education, and inservice program experience. The authors concluded that the identification of such variables formed a basis for selecting potential teachers in mainstreaming programs, and for arranging school environments to be more receptive to mainstreaming.

Hughes (1978) conducted a study on mainstreaming handicapped students in preparatory occupational education programs in North Carolina. A major emphasis of the study was to identify the barriers to mainstreaming handicapped students in vocational education as perceived by teachers and principals. It was found that the attitudes and perceived barriers did not differ significantly between teachers and principals. The most commonly perceived barrier was a lack of support personnel to help teachers provide occupational instruction to handicapped students. Second was the belief that school systems (particularly the smaller ones) do not have the funds to purchase needed equipment and materials. Other common concerns were that vocational teachers do not have the time to develop individual instructional programs needed to work with handicapped students, and that school facilities are not easily accessible to them. Vocational teachers and principals also felt that vocational educators are not aware of employment opportunities available for handicapped students with occupational skills. The study also identified strategies for reducing or removing the identified barriers which, if carried out, should also make vocational education receptive attitudinally to the handicapped. These strategies are reported in a later section of this paper.

Differential attitudes toward mainstreaming of handicapped students on the part of local education administrators have been

the subject of very few studies. Payne and Murray (1974) formulated four hypotheses concerning differences in attitudes between urban and suburban principals toward placement of handicapped children in regular classes. The first hypothesis was confirmed: 71.4 percent of suburban principals favored integration while only 40.3 percent of urban principals favored it. The second hypothesis was that urban and suburban principals would differ on which disability groups they felt could be mainstreamed. Both groups generally accepted visually handicapped, hard of hearing, physically handicapped, and learning disabled students in the same ranking order. However, the degree of acceptance among suburban principals was consistently greater. Third, it was hypothesized that urban and suburban principals would differ as to the types of supportive services they felt were needed for mainstreaming. This hypothesis was not supported. Both groups perceived a need for support services for both teacher and student if integration is to succeed. Both groups ranked inservice teacher training as the primary need closely followed by staffed resource rooms and itinerant services. The final hypothesis was that the two groups of principals would differ in their perceptions of teacher competencies needed for effective mainstreaming. The difference was not found to be present. Both groups equally ranked knowledge of exceptionalities, teaching techniques, behavior modification, and special materials as the most important teacher competencies and needs.

Attitudes of Parents

There is a scarcity of literature relating to parents' attitudes toward their own handicapped children. Much of what exists (Jensen and Kogan 1962; Barclay and Vaught 1964) addresses parental overestimates of their child's potential for achievement. Barclay and Vaught found that parents' estimates of their children's potential for future achievement was particularly unrealistic possibly reflecting the attitude that "she/he will grow out of it." Parental perceptions of the child's current level were consistently more realistic. Jordan (1970) found that attitudes of parents of educable mentally retarded children were higher toward EMR persons than most other disability groups.

Attitudes of Employers and the Business Community

An early study of public attitudes toward the work adjustment of blind persons was conducted by Dent in 1962. It was found that females generally had more favorable attitudes toward the occupational preparation of blind persons. Also, an apparently stereotyped attitude was that blind individuals are necessarily economically dependent.

In 1968, a major study of employer attitudes toward hiring mentally retarded workers was conducted by the Jewish Employment and Vocational Service. Employers were divided into four groups according to their experience with employment of handicapped workers:

1. those who had employed mentally retarded persons successfully

2. those who had knowledge of the experiences of other employers in hiring mentally retarded persons

3. those who had no experience and no knowledge of others' experience

4. those who had employed mentally retarded workers in the past with little success.

The attitudes toward hiring mentally retarded persons were predictably higher in the first group and declined as a favorable experience declined. Among employers expressing favorable attitudes, most hired at least some of their mentally retarded employees through special schools or rehabilitation agencies. Apparently, the high-attitude employers had more contact with those organizations. It was also found that high-attitude employers had more flexible hiring standards, especially minimum reading and writing levels.

All employers saw potential value in the mentally retarded employees and, therefore, regarded the extra training time and other accommodations as worthwhile. The employers with more favorable attitudes also felt that the mentally retarded individual could be vocationally trained through the schools and expressed a particular willingness to hire those with training for a specific job. The implication of this study for vocational education is that most employers have had neither experience in hiring mentally retarded employees nor knowledge of the experiences of other employers. Most employers also had no contact with organizations advocating the mentally retarded. This is in spite of the evidence clearly showing that such experience and contact increases the likelihood of employers hiring mentally retarded workers. Efforts in placement and other linkages between school and work would no doubt benefit the employment prospects of mentally retarded persons and other handicapped vocational students.

Richard, Triandis, and Patterson (1963) identified the specific handicapping conditions toward which employers seem to have the most negative attitudes The disability groups were

epileptics, former mental patients, deaf persons, those confined to wheelchairs, and those with tuberculosis. Possibly the particularly negative attitudes toward these groups relfect a need for more factual information for employers on those handicapping conditions.

A specific study of attitudes of employers toward hiring blind employees in data processing was done by Nichols (1962). It was found that most employers did have some inclination to hire blind persons, but that concerns about ability, safety and supervision generally outweighed them. It was also noted that as blind employees became increasingly represented in data processing, employers realized that they could do the job and employer attitudes gradually became more favorable over time. This supports the conclusion of the Jewish Vocational and Employment Service Study (1968) that increased experience with employment of handicapped persons creates more favorable attitudes. It also reaffirms the importance of increased placement efforts and dissemination of information to employers about the handicapped as workers.

It appears that it is the cognitive dimension of attitudes toward handicapped workers that is most important in determining employers' willingness to hire them. Concerns for ability, safety, and special needs seem to outweigh affective response. This is logical since the employer/employee relationship involves less of an interpersonal component that do relationships in educational settings. However, this could also reflect a lack of research into the affective components of employer attitudes. While the employer/employee relationship may not involve a significant interpersonal component, the relationship between fellow employees does. Perhaps the most fertile field for attitude research in the employment area is in the affective responses of nonhandicapped workers toward handicapped co-workers.

Attitudes of Peers

As handicapped students are mainstreamed into regular classes, the attitudes of their nonhandicapped peers will influence the ease with which they can become adjusted and the overall quality of their educational experience. There is a rather large body of literature showing that the nonhandicapped (particularly those of vocational school age) have decidedly negative attitudes toward peers displaying any form of deviance.

Centers and Centers (1963) found that children expressed rejecting attitudes toward classmates who were amputees. They were more frequently named as "least liked," and were perceived to be sad. The perceived sadness, while not necessary indicative

of rejection, implies pity and the possibility of other differential treatment.

Richardson (1971) studied how white children aged ten and eleven differentially value various types of physical appearance and handicap. The general order of preference was: (1) nonhandicapped white; (2) nonhandicapped black; (3) facial disfigurement; (4) use of wheelchair; (5) use of crutches and/or leg brace; (6) obesity; and (7) amputations. Use of prostheses (particularly on the lower extremities) increased the rank order of the amputee group. Interestingly, obesity was less preferred than several functional impairments, and physical handicap appears to be more of a stigma than race.

Peterson (1974) looked at peer attitudes toward mentally retarded children as a function of five rater variables: intelligence, chronological age, sex, educational level of parents, and prior exposure on contact with mentally retarded persons. Intelligence was found to be negatively related to attitudes. Intellectually superior children tend to choose other intellectually superior children as friends, and children with lower IQ's tend to have more favorable attitudes toward their mentally retarded peers. Chronological age was not found to be a factor although younger children did tend to be more neutral. Sex was not found to be a factor. The educational level of the parents was positively related to the child's attitudes. Peterson assumes that education increases the general level of tolerance of deviance in the family, and that the tolerance is transmitted to the children. Level of contact with the mentally retarded showed a weak positive relationship. Apparently, other factors, such as the quality and context of contact, affected the measurement of this variable but were not held constant.

Siperstein and Gottlieb (1977) studied the differential effects of four variables on peer attitudes toward a handicapped classmate. The variables were the sex and the social status of the rater, and the physical appearance and academic competence of the child being rated. Boys showed more favorable attitudes than girls although this could have been because the child being rated was also male. Social status of the rater was not found to be a significant variable. In general, academically competent, physically nonstigmatized children were judged more favorable than academically less competent, physically stigmatized children. However, physical appearance associated with mental retardation proved to be a more significant determinant of negative attitudes than the label "mentally retarded."

There are some studies (Kennedy and Bruininks 1974; Jones, Lavine, and Shell 1972) indicating that not all handicapped students suffer from unfavorable peer attitudes when integrated into

regular classes. However, the majority of the evidence shows that peer attitudes are a problem and attitude change strategies are needed. Change strategies particularly aimed at nonhandicapped peers are reviewed in a later section of this paper.

INTERVENTION STRATEGIES

Possible strategies for removing or reducing attitudinal barriers to handicapped persons are as numerous as the variations in the attitudes themselves. However, based on the literature it does seem possible to categorize attitude change strategies into information approaches and contact approaches which address the cognitive and affective attitude domains, respectively. A third category of possible approaches is based on the perceived inadequacy of regular classroom teachers to deal with handicapped students. These approaches involve instilling confidence in these teachers and attempting to meet their perceived needs for special support.

Information Approaches

Richardson (1971) suggested that the attitudes of the nonhandicapped could be improved by giving information and special training to handicapped persons in the area of interpersonal skills. Although those skills, if acquired, would be used in contacts with the nonhandicapped, the specific intervention is information or cognitive in nature. Richardson felt that handicapped individuals needed to learn ways to avoid giving the nonhandicapped (especially peers) stigma cues, and to help overcome the awkwardness of early contacts with the nonhandicapped. Such instruction might be given by counseling staff or by programmed materials.

Lazar, Gensley, and Orpet (1971) used an informational program to change the attitudes of mentally gifted children toward handicapped persons. Of particular interest in this study was whether or not informational approaches would work as well with young mentally normal children as it worked with the gifted. This is suggested as an area for further research.

Eiseman's finding (1971) that attitudes toward physically disabled persons are related to knowledge of the authoritarian personality led to the hypothesis that attitudes could be changed by supplying information about the authoritarian personality. However, no test of the hypothesis has been done, and this is not suggested as an intervention strategy unless other research supporting the hypothesis is done in the future.

Harth (1973) attempted to change attitudes at the cognitive level through informational procedures. The methods included lectures, discussions, and booklets. Lectures were found to be more effective than discussions, and discussions more effective than booklets. This was attributed to varied degrees of authoritativeness with lectures being the most authoritative. The implication is that informational approaches work better when the

information is given in person by one who is recognized as an authority on the subject.

Yates (1973) studies the effects of an introductory course in special education on the attitudes of regular class teachers toward handicapped persons. It was found that the method does increase the amount of special education knowledge, and does increase regular class teachers' perceptions of the possibility of effective integration of handicapped students. These findings are in conflict with other studies (Jordan and Proctor 1969) concerning the effect on attitudes of introductory special education courses. A reason for this may be variations in the content of the course. Some introductory courses in special education deal more with an introduction to the field of special education than with imparting knowledge of specific handicapping conditions.

Simpson, Parrish, and Cook (1976) attempted the use of such cognitive, curricular approaches as lectures and films to change attitudes of regular class nonhandicapped students toward handicapped students. The results were inconclusive, but suggested that informational approaches had a positive effect on attitudes especially when combined with contact approaches.

Cohen (1977) advocated inservice education for teachers and administrators. Conferences were also suggested because the very fact that an education department or school system would organize a conference on fostering positive attitudes toward handicapped persons suggests that the power structure in education is pushing for change. Such support from the organization would probably be reflected in the inclinations of individual staff. Cohen also advocated curricular approaches for changing the attitudes of regular class children. A unit on disability could be developed in social studies since social studies is the study of humankind and our adaptation to our environment. Information on disabled persons could be integrated into health and science courses as well.

Contact Approaches

The literature provided evidence that the amount and nature of social contact with the handicapped individual was an important variable in attitude formation (Jordan and Proctor 1969; Jordan 1970; and Kuhn 1971). Atttitude change strategies based on those variables are promising techniques for making the regular classroom environment more receptive to the mainstreamed handicapped student.

Crandell (1969) concluded that the affective component of attitudes toward handicapped persons was most important. It was suggested that attitudes be improved by carefully pairing a stimulus arousing negative affect with a stronger stimulus arousing positive affect. An example would be exposing nonhandicapped children to handicapped persons under conditions that were perceived as pleasant such as an outing or field trip. Repetition of the negative affect arousal (contact with the handicapped person) under positive conditions should reduce the negative affect in the same fashion that repeated pistol shots have a declining startling effect.

Crandell also suggested subdividing the attitude object to partially remove the negative affect. The notion is that if one feels pity for handicapped persons in general, but then learns that some handicapped persons are happy and some are not, the negative affect will be transferred to those who are not happy and will no longer be generalized to the handicapped as a group. Learning how to avoid stereotyping the handicapped person could persumably be accomplished through information or contact, but the approach still addresses the affective attitude domain.

Brooks and Branford (1971) documented a program in New Mexico schools aimed at improving regular teacher attitudes toward exceptional children. Regular class teachers and local administrators were placed in special education classes for a ten-week period. This contact with handicapped students was supplemented by sensitivity sessions held one night per week and directed by a member of a university counseling department. The teachers also enrolled for graduate courses dealing with handicapped persons making the approach partly informational. Attitudes measured by a post-test had changed positively toward the concept of special education and toward the concept of integration of handicapped students.

Richardson (1971) advocated educating nonhandicapped students about their feelings toward handicapped persons and how to deal with them. Again, such education could be through informational means (lectures, printed materials), or through social contact with the handicapped (sensitivity groups, workshops, etc.). It was felt that the two approaches in combination would be most effective.

Rapier, Adelson, Carey, and Croke (1972) reported on an early attempt at mainstreaming orthopedically handicapped students into regular classes at Palo Alto, California. The results documented were the product of an integrated experience which included no overt attempt to control the nature or conditions of the contact experience. Attitudes generally improved and handicapped individuals were seen as better able to take care of themselves after the

integrated experience. Initially, the girls had more favorable attitudes toward handicapped persons than the boys in the study but this difference lessened after the integrated experience. The significance of this study is that it shows that attitudes toward handicapped persons on the part of regular class students can be changed merely by placing handicapped children in class with them. However, it may be that if particular attention had been given to the quality and circumstances of the contact experience, the attitude improvement would have been greater.

Harth (1973) also examined social contact with mentally retarded persons as a variable determining attitudes toward that group. It was found that the nonretarded exposed to social contact with mentally retarded individuals did not show significant improvement in attitudes. However, contact in the context of a cooperative group activity did improve attitudes. It seems that mere contact has potential for inducing attitude change within the cognitive dimension, but that only contact within certain social situations is likely to alter attitudes at the affective level.

Cohen (1977) also argued that contact is important in changing attitudes but is not, in itself, enough. Cooperative engagement, particularly when significant adults involved served as models, was more effective. Cohen suggests that creativity is needed on the part of teachers and counselors to devise means for engaging students in cooperative group activity.

Support For Regular Classroom Teachers

Several studies (Shotel, Iano, and McGettinger 1972; Hughes 1978) identified the feelings of inadequacy among regular class teachers as an attitudinal barrier to mainstreaming handicapped students. Any intervention aimed at enhancing the confidence of these teachers in their ability to work with handicapped students, and at meeting their perceived needs for special support will likely have the effect of reducing this type of attitudinal barrier.

Shotel, Iano, and McGettinger conducted a study into how a program for integrating handicapped children into regular classes with supportive resource room services would affect the attitudes of regular class teachers toward handicapped students. Teachers in a control group without resource room services became less optimistic about their ability as they spent more time in integrated classes, while those in the experimental group who were provided resource room services maintained a more positive attitude. It was found that resource room services created more favorable teacher attitudes toward the concept of mainstreaming.

The authors also suggested that other means of encouraging confidence among regular classroom teachers are needed.

Hughes (1978), as a follow-up to a study of what vocational teachers and principals perceived as major barriers to mainstreaming, suggested means for overcoming each barrier. The barrier of insufficient funds for equipment and materials could be addressed by making teachers and principals aware of already available resource materials; through support from the state department of vocational education in using set-aside funds from its allocation for handicapped students; and by providing technical assistance to vocational education teachers in developing teacher-made materials to be used in classrooms.

It was recommended that to overcome the barrier of lack of support personnel vocational education teachers should become more involved in the implementation of individualized education programs as a means of coordinating the utilization of support personnel already available. In situations where additional support personnel are actually needed, such coordination will help to meet needs until the additional personnel are acquired. Lack of resources in smaller school systems could be overcome to modified fund allocation procedures and by more emphasis on cooperative programs between school districts which could pool their funding allocation.

The lack of awareness among occupational education teachers concerning employment opportunities for handicapped students was included as a perceived barrier in the Hughes study. To overcome this problem it was suggested that administrators, counselors, and teachers serve on local advisory committees that address problems concerning employment of handicapped persons. Employment of handicapped workers could be a topic for regular staff-development and inservice training activities.

The barrier of inadequate teacher preparation in working with handicapped students is a major problem which demands a concerted effort in expanding inservice and pre-service training programs. Since vocational educators appear to have little knowledge of special education, and special educators need more background related to "the world of work," pre-service education programs should include a component relating the two.

The problem of inaccessible vocational education facilities seemed to contribute to pessimism along the vocational educators in Hughes' study concerning integration of the handicapped student. Assuming that most vocational educators are not aware of the possibilities for removing such barriers, increased awareness and information in that area should enhance the receptivity of vocational education to handicapped students. A facilities/ equipment specialist should be able to develop procedures for

assessing the accessibility of existing facilities and for altering those facilities when required. It was also suggested that accessibility of vocational education facilities be considered as a requirement for all program funding.

In conclusion, a major fear of regular class teachers seems to be that the burden of mainstream handicapped students will fall solely on them, and that they will not be given adequate support. Increased effort on the part of school systems to meet the perceived needs of teachers will likely enhance teacher confidence. Such confidence among teachers experiencing mainstreaming is a necessary step for improving the quality of education for the handicapped student.

MAJOR FINDINGS

Since attitudes as psychological phenomena are still little understood, research into the determinants of negative attitudes toward the handicapped subpopulation and other populations is largely inconclusive. However, intervention strategies to reduce negative attitudes must be based upon what is known about their nature and causes. Following is a synthesis of major findings and generalizations of this study concerning attitudes toward handicapped persons and the potential for changing them which seem to be warranted based on the research literature.

- Demographic variables such as age, sex, education, and religion have not been shown to be reliably predictive of positive or negative attitudes.

- Educators having experience with the handicapped student and/or significant education dealing with handicapped persons tend to have more positive attitudes.

- Regular classroom teachers who are experiencing mainstreaming of handicapped students into their classes report more positive attitudes toward mainstreaming and more optimism concerning their ability to teach handicapped students when they perceive support services as being available to them.

- Extent and quality of social contact with handicapped persons is usually predictive of positive attitudes in the affective, emotional domain. Structuring educational environments to foster more cooperative group contact with handicapped persons has high potential as an attitude change strategy, particularly among peers.

- Knowledge of handicapping conditions and problems of handicapped persons are predictive of positive attitudes in the cognitive domain, although not necessarily in the affective domain. Dissemination of such information, in the forms of materials, workshops, academic courses, etc., has been shown to be effective in improving attitudes among educators, peers, and the general public.

- A primary need for futher research is in the area of attitudinal barriers to handicapped students which are specific to vocational education. It may be assumed that most of the attitude variables and change strategies identified are as applicable to vocational education as to other educational settings. However, perhaps the nature of vocational education with its emphasis on skill training and hands-on learning gives rise to special concerns which need to be taken into account in assessing attitudinal barriers to the handicapped student.

DIRECTIONS FOR FUTHER RESEARCH

Although research into attitudes toward handicapped persons has increased in recent years, it is still scarce, especially in the area of enhancing receptivity to mainstreamed handicapped students in regular classes. The knowledge base which does exist is often inconclusive and/or contradictory. A comprehensive literature base for understanding the nature and determinants of attitudes toward the handicapped individual is still not available. There is not enough evidence to warrant a conclusive delineation of the different variables affecting attitudes among groups as teachers, counselors, and local administrators.

There is a major need for research to solve some of the methodological problems that are inherent in attitude research. Instruments for measuring attitudes toward handicapped persons are of questionable validity and have limited applicability. Also, since all of the variables determining attitudes toward handicapped persons have not been identified, it is impossible to determine whether they are being adequately controlled in experiments.

The study by Payne and Murray (1974) found that attitudes toward handicapped and toward the concept of mainstreaming were consistently lower among urban principals than among suburban principals. Since the principal is an important figure in the success of any mainstreaming effort, it is important to determine if this finding can be replicated in other studies, and if it can, what reasons may exist for the difference and what intervention strategies may be employed.

School counselors have a significant potential for aiding the mainstreaming process. They could be involved in the design of workshops and other activities to improve attitudes toward handicapped students in the regular classroom. However, Gullotta (1974) found that teachers have little confidence in guidance counselors. Further study is needed to determine if this attitude extends to school pyschologists and consultants as well.

There seems to be a lack of literature concerning attitudes of parents toward their handicapped children and toward the concept of mainstreaming. This is possible due to assumptions that parents have positive attitudes and favor mainstreaming. However, with mandated parental involvement in the individualized education program, it is necessary to know more about the variables affecting parents' attitudes, particularly attitudes toward the concept of mainstreaming. Further research in this area is, therefore, indicated.

The studies of the attitudes of employers toward handicapped workers indicated that the cognitive dimensions of attitudes were most important among this group. However, no literature was located that explored the attitudes of nonhandicapped co-workers toward handicapped workers which are probably more affective responses. Acceptance of handicapped employees by nonhandicapped co-workers is certainly important in the overall adjustment of the handicapped person to a work situtation, and could indirectly influence management's willingness to hire handicapped persons. Research to identify specific strategies for enhancing receptivity toward handicapped persons among co-workers could be expected to improve the overall employment opportunities of handicapped individuals.

An interesting finding in the study of Lazar, Gensley, and Orpet (1971) was that the Attitudes Toward Disabled Persons Scale (ATDP) is valid when used with young mentally gifted children. Further research is needed to determine if the ATDP can be valid with intellectually normal children. If so, this would be a valuable methodological advance in measurement (and subsequent modification) of the attitudes of children toward handicapped persons.

Eiseman (1972) speculated that attitudes toward handicapped persons might be changed through provision of information about the authoritarian personality. Further study is needed to determine how such information interacts with attitude structure, and whether it would be effective as an attitude change strategy.

Since misconceptions about handicapped individuals can lead to negative attitudes, further study is indicated in order to determine what misconceptions and information gaps tend to exist for each category of handicap on the part of teachers, counselors, administrators, peers, and employers. Such data would give direction to informational approaches to attitude change.

There is a scarcity of information which related attitudes toward handicapped persons in levels of handicap severity, i.e., mild, moderate, and severe. This may be because the truly severely disabled have been socially isolated for so long that differential attitudes toward that group have not been researched. Also, it is possible that mild, moderate, and severe are not meaningful categories of handicap as variables in attitude formation. Research is needed to determine if differential attitudes toward these categories of handicap do exist.

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